

KARAPETYAN, E. A.

U.S.S.R. / Human and Animal Physiology. Nervous Sys- T
tem.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22677.

Author : Karapetyan, E. A., Marenina, A. I.

Inst : Inst. of Physiology.

Title : Changes of Potentials of the Brain in Sleep
and Bismuth Therapy of Narcolepsy and Other
Forms of Diseases With Sleep Disturbances.

Orig Pub: Tr. In-ta Fiziol An. SSSR., 1956, 5, 391-395.

Abstract: EEG changes in patients with narcolepsy during
sudden sleep were essentially different from
those observed in deep, common sleep. Changes
characteristic of those of light sleep were
often noted: Beta waves did not disappear com-
pletely, Delta waves appeared only occasionally.

*(Clinic of Organic Diseases) & Lab. Physiology
& Pathology of Higher Nervous Activity*

Card 1/2

115

U.S.S.R. / Human and Animal Physiology. Nervous Sys- T
tem.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22677.

Abstract: This was also noted in light sleep. Under the effect of treatment with sleep and bismuth the character of the EEG changed in accordance with the changes in the clinical condition. Beta waves disappeared, Delta waves appeared in larger numbers. The EEG did not undergo any changes in those cases where clinical improvement did not take place, or when the improvement was only slight and unstable.

Card 2/2

KHALYAVIN, A.Ye.; KARAPET'YAN, Ye.A.

Radiocobalt therapy of diseases of the peripheral nervous system
[with summary in French]. Zhur.nevr. i psikh. 57 no.10:1264-1268
'57. (MIRA 10:12)

1. Institut fiziologii imeni I.P.Pavlova (dir. - akad. K.M.Bykov)
AN SSSR sektora nervnykh bolezney (zav. - prof. N.A.Kryshova) i
nervno-psikhiatricheskogo ob'yedineniya (glavnyy vrach L.I.Maricheva)
Sverdlovskogo rayona Leningrada.

(NEURITIS, therapy,

radiocobalt in peripheral forms (Rus))

(COBALT, radioactive,

ther. of neuritis, peripheral (Rus))

KARAPETIAN, Ye.A.

Blinking method in studying the higher nervous activity in patients with narcolepsy and other diseases associated with sleep disorders. Trudy Inst. fiziol. 7:128-134 '58. (MIRA 12:3)

1. Sektor nevrozov i organicheskikh zabolevaniy nervnoy sistemy (zav. - N.A. Kryshova). Instituta fiziologii im. I.P. Pavlova AN SSSR.

(SLEEP--DISORDERS) (CONDITIONED RESPONSE)

KARAPETIAN, Ye.A.; MARENINA, A.I.

Effect of stimulation by light on brain potentials in narcoleptic patients. Trudy Inst. fiziol. 7:135-139 '58. (MIRA 12:3)

1. laboratoriya fiziologii i patologii vysshey nervnoy deyatel'-nosti (zav. - F.P. Mayorov) i Sektor nevrozov i organicheskikh zabolevaniy nervnoy sistemy (zav. - N.A. Kryshova) Instituta fiziologii im. I.P. Pavlova AN SSSR.

(SLEEP--DISORDERS) (ELECTROENCEPHALOGRAPHY)

(LIGHT--PHYSIOLOGICAL EFFECT)

KARAPET'YAN, Ye.A.; OZERETSKOVSKAYA, N.G.

Speech-motor method of studying the higher nervous activity in patients with sleep disorders. Trudy Inst. fiziol. 7:140-146 '58. (MIRA 12:3)

1. Sektor nevrozov i organicheskikh zabolevaniy nervnoy sistemy
(zav. - N.A. Kryshova) Instituta fiziologii im. I.P. Pavlova AN SSSR.
(SLEEP--DISORDERS) (CONDITIONED RESPONSE)

KRYUKOVA, N.A.; KARAPETYAN, Ye.A.

Some characteristics of pyridoxine metabolism in narcoleptic patients. Vop. med. khim. 10 no.5:464-466 S-O '64.

(MIRA 18:11)

1. Laboratoriya klinicheskoy neyrokhimii Instituta fiziologii imeni Pavlova AN SSSR i psikhonevrologicheskaya bol'nitsa imeni Pavlova, Leningrad.

KOROJEV, G.V.; KARAPETYAN, Z.A.

Improved "UP-2" universal device for determining the activity
of monomers and oligomers. Plast. massy no.11:51-53 '65.
(MIRA 18:12)

KARAPET'YANTS, A. M.

"Investigations on tone and intonation in the Peking dialect."

report submitted for 5th Intl Cong of Phonetic Sciences, Muenster, W. Germany,
16-23 Aug 64.

CA

MECHANISM OF THE GRAPHITE COMBUSTION IN RELATION TO TEMPERATURE. II. V. N. Pertsov and M. Kh. Karapet'yants. *J. Applied Chem.* (U. S. S. R.) 9, 1338-77 (1936); cf. C. A. 26, 4900. —A porcelain plate with a partition and with the ends of a differential thermocouple secured to both sides of it was used in the expts. The sample was placed on one end of the thermocouple and the whole assembly was placed in an elec. furnace, the temp. of which was raised by 5° per min. The results were plotted: $T_2 - T_1 = f(T)$, where T_2 is the temp. of combustion of graphite and T_1 that of the gaseous medium. The graphite- CO system forms a quasi-equil. at low temp.; however, at a definite temp. (for each variety of graphite) a reaction accompanied by a great evolution of heat takes place, which causes the process to become autocatalytic. At 600°, an oxidation of CO takes place, which retards the velocity of combustion. This is in the case of highly dispersed graphite only. The velocity of combustion increases at 780-850°, because of the destruction of the graphite surface according to the reaction: $\text{CO}_2 + \text{C} = 2\text{CO}$. Twenty-seven references. A. A. Podzornov

ASB. 31.4 METALLURGICAL LITERATURE CLASSIFICATION

2

Aging of sols and gels. VI. Gelatinization and cry-
tallization. E. M. Preis and M. Kh. Karapet'yan.
Colloid. J. (U. S. S. R.) 6, 315-22(1940); cf. C. A., 35,
8473n.—The kinetics of crystn. of sols of $(CH_3CONH)_2Hg$
were investigated. The formation of intercellular struc-
tures oriented in space and formation of the usual cryst.
ppt. are two independent and competitive processes.
The velocity of gelatinization of the sols is max. at room
temp., and is zero at higher temp. The velocity of crystn.
is zero near the f. p. and rapidly increases with temp.
A max. of the crystn. velocity occurs at a range of temp.
at which the gelatinization is impossible. The crystal
velocity at min. temp. changes with time, passing through
a max.; the character of which depends on the temp.
VII. The temperature of structure formation of sols of
methylene succinimide. E. M. Preis, I. I. Vershidub and
F. T. Kabanov. *Ibid.*, 325-32.—A transition sol to gel is
connected with the formation of intercellular structure.
The gel is a system having a structure with great fluidity.
The viscosity of sols of $(CH_3CONH)_2Hg$ does not increase
with time if the temp. is above 55-60°; this is the temp.
of structure formation. Below this temp. the system
tends to age and gradually to change into a gel. Mech.
deformation prevents the transition of sol to gel and keeps
the viscosity of the sols constant. A. A. Podgorny

GELATINIZATION

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

SECONDARY SOURCE

UNCLASSIFIED

CLASSIFIED

CF

2

Effect of pressure on the heat of formation of ammonia.
 Ya. S. Kazarnovskii and M. Kh. Kharapet'yants. *J. Phys. Chem. (U. S. S. R.)* 15, 700-73 (1941); cf. *C. A.* 35, 6894. —The relation found by Gillespie and Beattie (*C. A.* 23, 242, 4172) using the Beattie-Bridgeman equation, for the heat of formation of NH_3 as a function of the pressure is incorrect. The equation for the heat capacity and compressibilities are not applicable. The calcs. of Kowalczyk (*C. A.* 28, 7135) are similarly incorrect because the values obtained for the compressibilities by use of the van der Waals equation differ from expl. values by as much as 50 to 100%. The effect of pressure on the heat of the reaction $\frac{1}{2}\text{N}_2 + \frac{3}{2}\text{H}_2 = \text{NH}_3$ (all gases) at temps. from 200 to 500° and pressures up to 7000 atm. can, however, be calcd. by means of the equation: $\Delta H_p = \Delta H_{atm} + \int_{atm}^p \Delta \alpha dp = T \int_{atm}^p (\Delta \alpha / \Delta T) dp$ and assuming that expl. values for the compressibility of NH_3 up to 300° can be extrapolated to 500°. At high temps. and pressures the heat effect is about 20% greater than at atm. pressure. The heats of mixing of H_2 - N_2 to form the three-component system H_2 - N_2 - NH_3 are calcd. by use of the Krichevskii-Kharanova equation (cf. preceding abstr.).
 P. H. Rathmann

ASB-LLA METALLURGICAL LITERATURE CLASSIFICATION

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CA

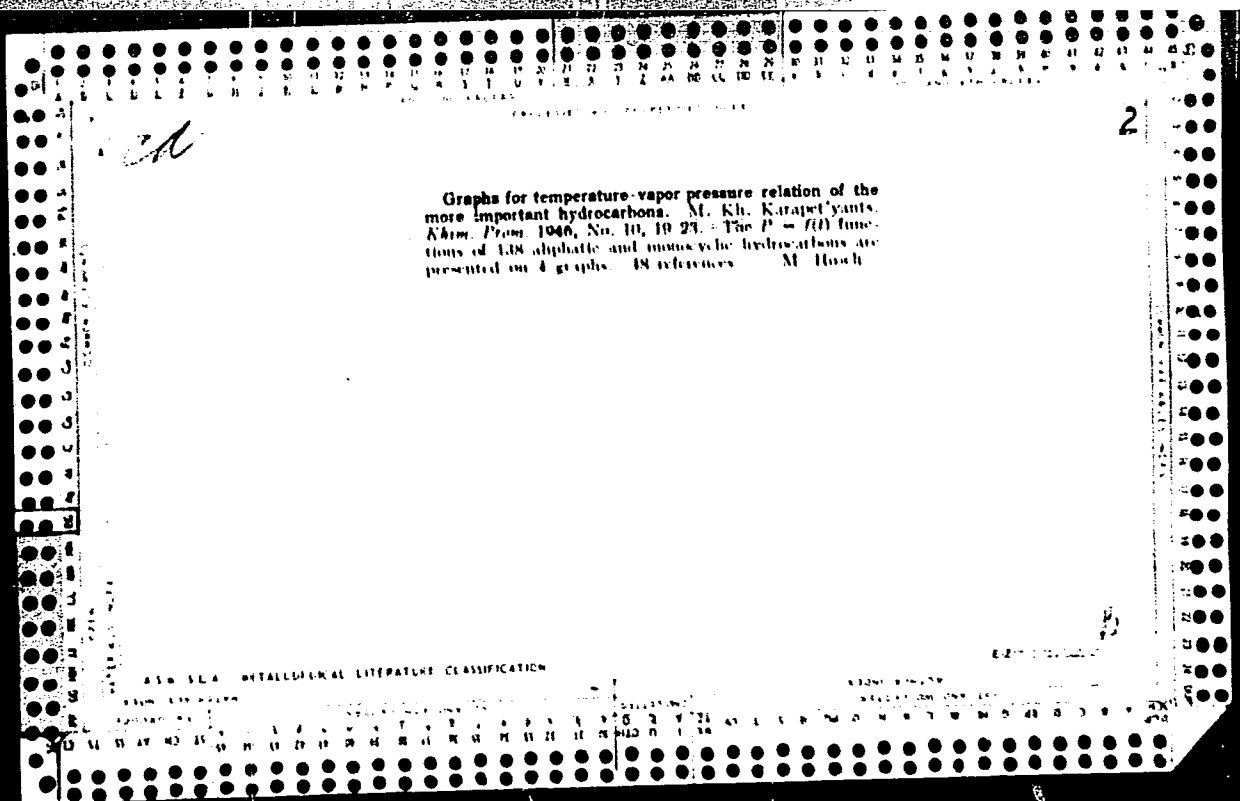
2

Thermodynamic properties of compressed ammonia.
 Ya. S. Karginovskii and M. Kh. Karapet'yants. *J. Phys.*
 Chem. (U.S.S.R.) 19, 172-86 (1965); *U.S.S.R. 1965*, 172-86.
 Fugacity, heat capacities, entropy, internal energy, free
 energy, etc., of NH_3 are calcd. from literature data for
 180-370° and 20-1000 atm. B. A.

Moscow State Nitrogen Inst.
 Order Lenin Chemico-Tech. Inst. im. Mendeleyev.

ASB-SLA DETALLURGICAL LITERATURE CLASSIFICATION

FROM SYMBOL		SYMBOL		SYMBOL	
1	2	3	4	5	6
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295	296	297	298	299	300



1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p>CA</p> <p>Effect of temperature on the heats of vaporization of the principal homologous series of hydrocarbons. M. Kh. Karapet'yants. <i>Nefteyuzh. Khim.</i> 23, No. 10, 80-6 (1947). Graphs of heats of vaporization at temps. from -100° to 380° are given for hydrocarbons of the following series: n-alkanes, $C_{11}H_{24}$ to $C_{14}H_{30}$, at pressures of 0.1-60 atm.; 2-methylalkanes, $i-C_{11}H_{24}$ to $i-C_{14}H_{30}$; 1-alkenes, C_6H_{12} to $C_{11}H_{22}$; and cycloalkanes, C_6H_{12} to $C_{10}H_{20}$, at pressures ranging from 30 to 30,000 mm. The max. spread between the calcd. values and exptl. data from literature is stated to be +3%. Bruno C. Metzner</p>																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST AND 2ND ORDERS</p>										<p>3RD AND 4TH ORDERS</p>									

KARAPET'YANTS, M. Kh.

Khimicheskaya termodinamika.

Moscow, 1949

546p.

A textbook and reference manual on chemical thermodynamics dealing with chemical re-processing of fuel with numerous tables, graphs, charts, etc; published as a Govt. Scientific-Technical Edition of Chemical Literature.

KARAPET'YANTS, M. Kh.

Primery i zadachi po khimicheskoy termodinamike (Examples and problems on chemical thermodynamics) Moskva, Goskhimizdat, 1950. 324 p. diagrs., tables.

SO: N/5
614.111
.K12

KARAPET'YANTS, M.Kh.; LUR'YE, G.Ye., redaktor; LUR'YE, M.S., tekhnicheskiiy redaktor.

[Examples and problems in chemical thermodynamics] Primery i zadachi po khimicheskoi termodinamike. Izd. 2-e. Moskva, Gos.nauchno-tekhn. izd-vo khim. lit-ry, 1953. 335 p. [Microfilm](MLRA 7:10)
(Thermochemistry)

KARAPETYANTS, M. Kh.

Karapetyants, M. Kh.: Khimicheskaya termodinamika
(Chemical thermodynamics). 2nd ed. Moscow: Gos-
dard. Nauch.-Tekh. Izdatel'stvo Khim. Lit., 1953. 611 pp.

742
6-7-55

KARA PETYANTS, M. Kh.

USSR.

The heats of evaporation of liquids. M. Kh. Kara-pet'yants. *J. Appl. Chem. U.S.S.R.* 20: 1990 (1968) (Engl. translation). For a series of related compounds, the heats of evaporation obtained from the Clausius-Clapeyron equation (L') can be expressed in terms of the true heat (L) at a given satd. vapor pressure ($\pi = P/P_{sat}$) by a simple relation. For hydrocarbons, $L'/L = 1.008 + 1.4 \pi$. This gives low results for alkynes and high values for cyclanes, but holds fairly well for most hydrocarbons over the range $\pi = 0.001$ to 0.05 . J. B. Austria

row

KARAPET'YANTS, M. Kh.

The calculation of entropy for different compounds.
M. Kh. Karapet'yants (D. I. Mendeleev Chem. Technol.
Inst., Moscow), *Zh. Fiz. Khim.* 27, 775-8 (1953).
An approx. method is proposed. It is based on the as-
sumption that for similar compds. of the same subgroup of
the periodic table, the standard entropy is a linear function
of the heat capacity. Entropy values detd. are as follows:
SrF₂ ~19.5, HfF₄ ~10.7, AgF ~10.8, and 1,2,3-trimethyl-
benzene ~64.0. The av. deviation for 50 compds. is 0.4
c.u.
J. Rovnar Leach

KARAPET'YANTS, M. K.

Approximate method of calculation of several properties of various substances. M. Kh. Karapet'yants (D. I. Mendeleev Chem. Technol. Inst., Moscow). *Zhur. Khim.* 27, 834-8(1953); cf. *C.A.* 48, 16417. — Many thermodynamic and other numerical properties can be predicted by the formula $G_2 = AG_1 + B$, where G_1 and G_2 are the values for a given property of 2 substances in a series of similar compounds, and A and B are constants. In the given example, when G_1 is the isobaric molar heat capacity (C_p) of Na halides, $A = 1.40$, $B = -5.4$, and G_2 is the C_p of the corresponding K halides. In this case the tabulated predicted values agree with literature data within 0.5% or less. The general applicability of the equation is shown in graphs that deal with 15 cases, including the given example, viscosity of gaseous alkanes and alkenes, dipole moments of P and As halides, and b.p. of alkanes and alkenes. J. W. Laweberg, Jr.

TATEVSKIY, V.M.; KARAPET'YANTS, M.Kh. [authors]; TILICHEYEV, M.D. [redaktor];
KIRSEYEV, V.A. [reviewer].

"Physicochemical properties of individual hydrocarbons." Edited by M.D.
Tilicheev. Reviewed by V.A.Kireev. Zhur.fiz.khim. 27 no.6:939-940 Je
'53. (MLRA 6:7)
(Hydrocarbons)

Karapetyants, M. Kh.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 24/26

Authors : Karapetyants, M. Kh.

Title : Approximate method for the calculation of isobaric potentials and heats of formation of various substances

Periodical : Zhur. fiz. khim. 28/1, 186-187, Jan 1954

Abstract : An approximate method is briefly described for the estimation of isobaric potentials and heats of formation of various chemical substances. Since the standard heats of formation are already known for approximately 2500 different inorganic compounds and the thermal effect and isobaric potentials are known for only one third of that number the author hopes that the new approximate method will make it possible to determine the isobaric potentials for the remaining two thirds of the compounds. One USA reference (1952) Graph

Institution : The D. I. Mendeleev Chemical-Technological Institute, Moscow

Submitted : June 26, 1953

KARAPETYANTS, M. KH.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 23/27

Authors : Karapetyants, M. Kh.

Title : Approximate method for the calculation of isobaric potentials and heats of formation of various substances

Periodical : Zhur. fiz. khim. 28/2, 353-361, Feb 1954

Abstract : A new approximate method is discussed for the calculation of isobaric potentials and heats of formation of various substances. The new method was tested on more than 300 different substances and the average divergence between the calculated and already known data was 0.7 kcal. Equations are introduced for the calculation of constants of the reaction of formation of seventeen different groups of substances. Also calculated are the constants for the formation of 240 compounds for which there are no literature data regarding their standard isobaric potentials. Four references: 3-USSR and 1-USA (1947-1954). Tables; diagrams.

Institution : The D.I. Mendeleev Chemical-Technological Institute, Moscow

Submitted : June 26, 1953

KARAPETYANTS, M. KH.

USSR/Chemistry Physical chemistry

Card : 1/1

Authors : Karapetyants, M. Kh.

Title : Approximate method for the calculation of energies of a crystal lattice

Periodical : Zhur. fiz. khim. 28, Ed. 6, 1136 - 1152, June 1954

Abstract : A brief review is presented of various methods for the calculation of energies of crystal lattices. Results, obtained from the calculation of lattice energies for 189 compounds, are tabulated. A new method, for approximate calculation of lattice energies, is described. Approximate lattice energy values were calculated for 59 compounds and the results are given in tables. Twenty-six references: 16 USSR, 5 German, 1 French, 1 English and 3 USA. Graphs.

Institution : The D. I. Mendeleev Chemical-Technological Institute, Moscow

Submitted : December 9, 1953

KARAPET'YANTS, M. KH.

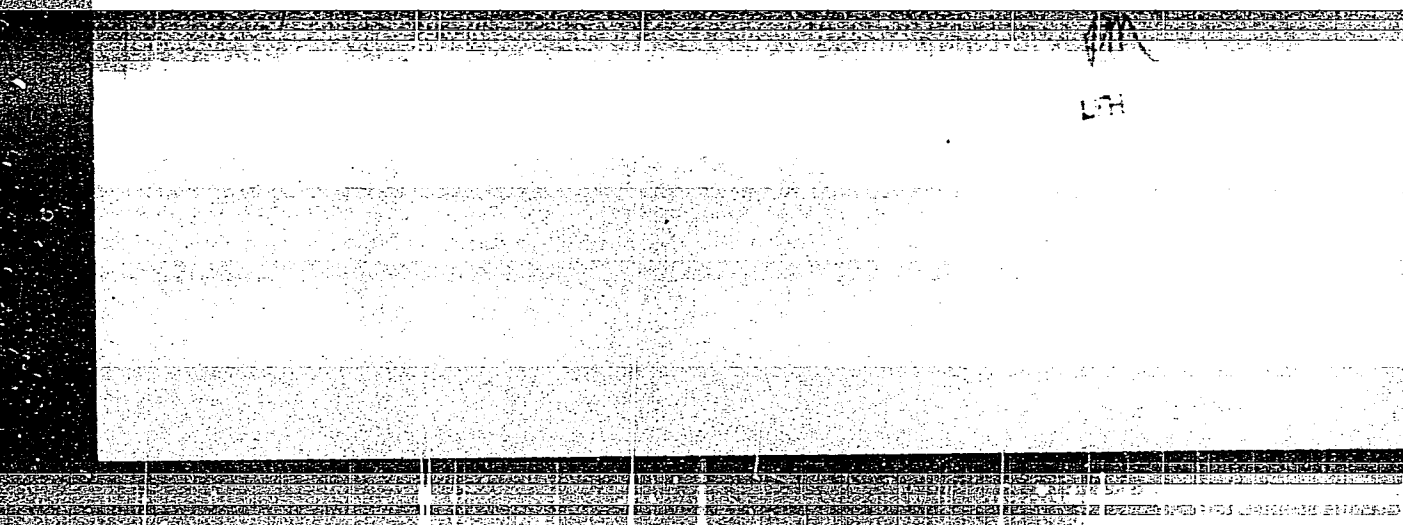
✓ Vorob'ev, N. K., Gol'tshmidt, V. A., and Karapet'yants,
M. Kh.: Praktikum der physikalischen Chemie. Trans-
lated from Russian by Cl. Froelich. Berlin: Verlag
- Technik, 1953. 347 pp.

Chem 3/

KARAPET'YANTZ, M. Kh.

"APPROVED FOR RELEASE: 06/13/2000

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APPROVED FOR RELEASE: 06/13/2000

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~~KARAPET'YANTS, M. Kh.~~

KARAPET'YANTS, M. Kh.

✓ Approximate comparative compilation of properties of substances under different conditions. M. Kh. Karapet'yants (D.I. Mendeleev Chem. Technol. Inst., Moscow).

(Zhur. Fiz. Khim., 29, 1132-5(1955); cf. C.A. 50, 7547a. — A continuation of an earlier article (C.A. 49, 2802i) in which the use of other approximation computations is discussed, namely comparison of properties based on changes of 1 parameter (temp., pressure, concn., etc).

W. M. Sternberg

KARAPET'YANTS, M.Kh.

Reply to the "comments" of A.F. Kapustinskii. Zhur.fiz.khim. 29
no.7:1326-1327 J1 '55. (MLRA 9:3)

1. Khimiko-tekhnologicheskii institut imeni D.I. Mendeleeva,
Moskva.

(Thermochemistry) (Kapustinskii, A.F.)

KARAPET'YANTS, M.Kh.

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A method of comparative computation of different properties of M. Kh. Karapet'yan's (P. I. Mendeleev) Atomic Weight Table. *Zh. Khim.* 29, 1928-33 (1955). Remarks are made concerning the wide applicability of an approx. comparative computation of a wide range of properties, discussed in earlier articles (C.I. 49, 7917). Examples of the computations are given.
W. M. Sternberg

KARAPET'YANTS, M. KH.
USSR/ Chemistry - Books

Card 1/1 Pub. 147 - 18/22

Authors : Karapet'yants, M. Kh.

Title : Reply to a letter by A. F. Kapustinskiy

Periodical : Zhur. fiz. khim. 29/11, 2090-2095, Nov 1955

Abstract : The author, who presented a critical review of A. F. Kapustinskiy's book entitled, "The Law of the Thermochemical Logarithmic Curve," points out for the second time the errors of the book and supports his contentions with the Gibbs-Helmholtz theories and with theories of other Soviet scientists. Main emphasis is placed upon a certain equation for heats of formation of substances which, according to the author, is not a product of the law of thermochemical logarithm as originally stated by Kapustinskiy. Eighteen Russ. and USSR references (1903-1955). Graphs.

Institution : Chemicotechnological Inst. im. D. I. Mendeleyev, Moscow

Submitted : July 22, 1955

KARAPET'YANTS, M. Kh.

Relation between temperature and heat of formation for homologous series of hydrocarbons. M. Kh. Karapet'yants (D.I. Mendeleev Chem. Technol. Inst., Moscow). *Tr. Akad. Nauk SSSR* 1958, No. 9, 22-34. The ΔH_f° values were calcd. for n -alkanes, 1-alkenes, 1-alkynes, mono- n -alkylbenzenes, mono- n -alkylcyclopentanes, and mono- n -alkylcyclohexanes. The av. deviation between the calcd. values and those reported in the literature for 43 hydrocarbons in the 400-1000°K. interval was 0.2 kcal./mol. The heats of formation (kcal./mol.) at 299.16°, 400°, 600°, 800°, 1000°, and 1200°, resp., are: for 2-methyl-octane 59.51, 57.8, 62.3, 64.3, 65.8, 67.0, 67.8, 68.5; 2-methyl-nonane 61.44, 65.0, 67.7, 69.0, 71.5, 72.7, 73.7, 74.7; 2-methyl-decane 66.37, 70.2, 73.1, 75.5, 77.2, 78.5, 79.5, 80.3; 2-methyl-undecane 71.20, 75.4, 78.5, 81.0, 82.8, 84.3, 85.3, 86.2; 2-methyl-dodecane 76.22, 80.6, 83.0, 84.2, 85.5, 86.3, 87.2, 88.1; 2-methyl-tridecane 81.15, 85.8, 89.3, 92.2, 94.2, 95.8, 97.0, 98.0; 2-methyl-tetradecane 86.07, 91.0, 94.7, 97.7, 99.9, 101.6, 102.8, 103.9; 2-methyl-pentadecane 91.00, 96.1, 100.2, 103.3, 105.6, 107.4, 108.7, 109.8; 3-methyloctane 56.00, 59.3, 61.9, 63.8, 65.4, 66.5, 67.4, 68.1; 3-methylnonane 60.85, 64.4, 67.2, 69.4, 70.9, 72.2, 73.1, 73.9; 3-methyldecane 65.81, 69.6, 72.0, 75.0, 76.7, 78.0, 79.0, 79.8; 3-methylundecane 70.74, 74.8, 78.0, 80.5, 82.3, 83.8, 85.9, 86.7; 2,2-dimethylheptane 59.05, 62.4, 65.0, 67.1, 68.6, 69.3, 70.1, 70.3; 2,2-dimethyloctane 64.01, 67.7, 70.0, 72.0, 74.5, 75.5, 76.2, 76.4; 2,2-dimethylnonane 68.94, 72.0, 76.1, 78.6, 80.3, 81.5, 82.2, 82.4; 2,3-dimethylheptane 55.68, 59.8, 61.8, 63.7, 64.6, 65.1, 65.6, 65.8; *cis*-2-heptene 16.76, 19.3, 21.3, 22.9, 24.1, 25.0, 25.6, 26.2; *cis*-2-octene 21.60, 24.4, 26.0, 28.4, 29.6, 30.7, 31.4, 32.0; *cis*-2-nonene 26.56, 29.7, 32.0, 34.0, 35.4, 36.5, 37.3, 37.9; *cis*-2-decene 31.40, 34.9, 37.4, 39.6, 41.1, 42.2, 43.2, 43.8. 30 references. A. P. Kothlin

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KARAPET'YANTS, M. Kh.

AID P - 2102

Subject : USSR/Chemistry

Card 1/2 Pub. 78 - 15/24

Author : Karapet'yants, M. Kh.

Title : Critical temperatures and pressures of some hydrocarbons

Periodical: Neft. khoz., v.33, no.24, 66-72, Ap 1955

Abstract : For the calculation of many properties of various compounds, among them their critical constants, the comparison of their numerical values in series of similar compounds can be used. In this article this method is applied for calculating the critical temperatures and pressures in homologous series of some hydrocarbons. In calculating the critical parameters, the critical parameters of the n - alkane series were taken as argument for all the investigated hydrocarbons. The critical temperatures and pressures were then calculated by using special formulae. Values for 40 hydrocarbons were calculated which had previously not been reported in literature.

KARAPET'YANTS, M. A.

Category: USSR / Physical Chemistry.
Thermodynamics. Thermochemistry. Equilibrium Physico-
chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29862

Author : Karapet'yants M. Kh.
Inst : Moscow Chemico-Technological Institute
Title : Extreme Cases of One of the Methods of Comparative Calculation of
the Properties of Substances.

Orig Pub: Tr. Mosk. khim. tekhnol. in-ta, 1956, No 22, 100-103

Abstract: The method of comparative calculation, in which a comparison is
made of the dependency of G and G on and to which corresponds
the approximate linear equation $G = AG + B$, wherein G and G ,
are values of property G of substances M and N at the same values of
variable parameter π (RZhKhim, 1956, 38947), is considered and illu-
strated by specific examples in the cases when $A = 1$ and $B = 0$.

Card : 1/1

-6-

KARAPET'YANTS, M. KH.

USSR/Solid State Physics - Structural Crystallography

E-3

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720610018-6"

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 935

Author : Karapet'yants, M.Kh.
Inst :
Title : Certain Remarks in Connection with the Article by A.F.
Kapustinskiy, "Energy of Lattice of Ionic Crystals and the
Thermochemical Logarithmic Rule".

Orig Pub : Tr. Mosk. khim.-tekhnol. in-ta, 1956, vyp. 23, 184-190

Abstract : The author believes that the equation $U_{\pi} \approx AU + B$
in which the lattice energy values are compared in two se-
ries of similar compounds, is not the consequence of the
thermochemical logarithmic rule of A.F. Kapustinskiy (Izv.
AN SSSR, Ser. khim., 1948, 6, 568), which has been repor-
ted by its author in the form of an equation $U/W = a \log$
 $z + b$ to include the energy of the crystalline lattice.

Card 1/1

KARAPET'YANTS, M. KH.

KARAPET-YANTS, M. Kh.

Category: USSR / Physical Chemistry

Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29861

Author : Karapet-yants M. Kh.

Inst : not given

Title : Two Methods of Comparative Calculation of Properties of Substances

Orig Pub: Zh. fiz. khimii, 1956, 30, No 6, 1420-1424

Abstract: Using the example $G' = Q^0(T, S^0)$ and $G'' = Z^0$, there is considered and illustrated the relationship between two previously described methods for a comparative calculation of properties (RZhKhim, 1956, 31897). In one method a comparison is made of two properties, G' and G'' , of several substances under constant conditions, while in the other method the values of two properties, G' and G'' , of a single substance are compared, depending upon the values of a variable parameter.

Card : 1/1

-5-

KARAPET'YANTS, M. Kh.

USSR/Statistical Physics - Thermodynamics.

D-3

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11419

Author : Karapet'yants, M. Kh.

Inst : Chemical-Technological Institute, imeni D.I. Mendeleyev,
Moscow.

Title : Approximate Method of Calculating the Critical Temperatures
and Pressures.

Orig Pub : Zh. fiz. khimii, 1956, 30, No 10, 2218-2227

Abstract : One of the versions of a previously described method of
the author of a relative calculation of the various physi-
cal-chemical properties (Zh. fiz. khimii, 1955, 29, 1328)
is employed for the particular case of the critical tem-
peratures. It is shown that the calculation method can be
used to calculate of the values of the critical temperatu-
res t_{cr} , the critical pressures P_{cr} and the coefficient

Card 1/2

CHEM.
KARAPET'YANTS, M. K., Doc Sci --(USSR) "Methods of Comparative Calculation of the
Physico-Chemical Properties of Various Substances." Moscow, 1957. 23 pp. (Min
Higher Educ USSR. Moscow ~~Mendeleev~~ Chem-Technology Inst) 130 copies

(KL, No 39, 1957, p.94)

KARAPET'YANTS M. Kh.

AUTHOR: Karapet'yants, M. Kh.

79-12-42/43

TITLE: On an Approximation Method for the Computation of the Melting Temperatures in Homologous Series
(Priblizhennyy metod rascheta temperatur plavleniya v gomologicheskikh ryadakh).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 12, pp. 3379-3386 (USSR)

ABSTRACT: The melting point appears to be the most important constant for the characteristics, the identification and the determination of the degree of purity of organic compounds. The melting points of the higher representatives of the homologueous series, however, are mostly unknown as to their meaning, and, if they are determined, rarely in an exact manner. Moreover, the computation of the melting point shows no additive character. Disregarding some of the lower homologs the diagram 1 represents four types of melting point modification. These types are: I double radical dicarboxylic acids, II mono radical carboxylic acids, mercaptane, Diamino III - n - alkanes, 2 - alkandioles, saturated monoatomic alcohols, m - monoalkylnaphtalenes,

Card 1/3

On an Approximation Method for the Computation of the Melting 79-12-42/43
Temperatures in Homologous Series

1 - alkenes, n - monoalkylcyclopentanes IV - n - mono-
alkylcyclohexane, n - monoalkylbenzenes, 2 - methyl -
1 alkenes, ketones $\text{CH}_3\text{-CO-C}_n\text{H}_{2n+1}$. In the present paper
a new possibility for the computation of the melting
points is proposed: Observations with respect to the
importance of the even and off CH_2 -groups within the mo-
lecules lead the author towards the opinion, that the given
homologous series must consist of two compound groups.
This conception permits to recommend one of the methods
described earlier for the determination of the melting
point, which is based on the so-called "comparative
computation of various properties", which is defined more
exactly by the author in the further course of his paper.
There are 4 figures, 1 table and 10 references, 4 of which are
Slavic.

Card 2/3

On an Approximation Method for the Computation of the Melting 79-12-42/43
Temperatures in Homologous Series

ASSOCIATION: Chemical-Technological Institute imeni D. I. Mendeleyev
(Khimiko-~~tekhnologichesk~~iy institut im. D. I. Mendeleyeva).

SUBMITTED: July 9, 1956

AVAILABLE: Library of Congress

1. Organic compounds - Melting temperatures - Approximate computation
2. Approximate computation - Applications

Card 3/3

KARAPET'YANTS, M.Kh.
KARAPET'YANTS, M.Kh.

Reply to the new letter of A.P. Kapustinskii. Zhur. fiz. khim.
31 no.6:1417-1419 Je '57. (MIRA 10:12)

1. Moskovskiy khimiko-tehnologicheskii institut im. D.I. Mendeleeva.
(Thermochemistry)

AUTHOR:

Karapet'yants, K. Kh.

SOV/156-58-1-4/46

TITLE:

On the Comparison of the Properties of a Substance in the Case of Two Values of a Parameter in Dependence on the Value of Another Parameter (O sopostavlenii svoystv veshchestva pri dvukh znacheniyakh odnogo parametra v zavisimosti ot znacheniya drugogo parametra)

PERIODICAL:

Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 12-16 (USSR)

ABSTRACT:

The following method of comparative calculation may be used if the value of a certain property G of the substance to be investigated depends on two condition parameters P' and P'' (i.e. if a functional dependence $f(G, P', P'') = 0$ (1) exists): The author finally obtains a relation $\psi(y_2) = A\psi(y_1) + B(5)$ if it is assumed that the dependence of one of the quantities occurring in (1), i.e. y , on another quantity (x) (in the case of a constant quantity of a third (z)) may be expressed with certain accuracy by the equation $\psi(y) = a + b\phi(x)$ (2). The varieties of this relation are given in a table with respect to the application

Card 1/3

On the Comparison of the Properties of a Substance in the Case of Two Values of a Parameter in Dependence on the Value of Another Parameter

SOV/156-58-1-4/46

to the dependence (1). Since the main part of the properties of pure solid and liquid substances depends on the temperature only, the application of the method discussed here is limited to the region of high pressure only. On the other hand, the mentioned method may be used to a great extent in the case of gases the properties of which are sensitive to the pressure change. Gases in a standard state which are independent of the pressure represent an exception. The mentioned method may be used as well for the calculation of the properties of solutions. The author discusses the individual relations (Fig 1). Figure 2 shows the equivalent electric conductivities Λ of the concentrated aqueous solutions in KCl at high temperatures (Ref 4). In order to simplify the calculations the alteration of the quantity Λ in corresponding equations which occurs according to certain laws may be used, i.e. the dependence $\Lambda = \phi(x)$ (24). $x = P', P''$ or G applies in this connection. If e.g. the Λ - P bond is used (Fig 3 A), the heat capacity of the compressed steam may be evaluated in a region on which no experimental data exist. This evaluation

Card 2/3

KARAPET'YANTS, M. KH.

72-1-7/13

AUTHOR: Karapet'yants, M. Kh.

TITLE: On the Temperature Dependence of the Viscosity of Silicate Glasses
(O temperaturnoy zavisimosti vyazkosti silikatnykh stekol)

PERIODICAL: Steklo i Keramika, 1958, Nr 1, pp. 22 - 25 (USSR)

ABSTRACT: For the purpose of determining this temperature dependence a large number of different equations was investigated, and a number of nomograms was drawn, all of which, however, have certain faults. (W. Eitel, M. V. Okhotin, Reference 1). The author of this article already previously pointed out the possibility of using the methods of comparative computation with respect to various properties. Furthermore, one of these methods is investigated on the basis of the example of the temperature dependence of viscosity (η), and on the basis of three mathematical formulae and is illustrated by figures 1, A and 1, B. The experimental values were taken from the work by M. M. Skorniyakov, A. Ya. Kuznetsov and K. S. Yevstrop'yev (reference 2). The author further refers to the papers by A. W. Porter, E. P. Irany and V. I. Slavyanskiy (references 1, 2, and 3). Transition to the computation of the viscosity of some initial compounds is shown in the figures 2 - 5, where the figures 2 and 3 correspond to the system $\text{Na}_2\text{O} - \text{SiO}_2$, and the figures 4 and 5 cor-

Card 1/2

CHINA/Atomic and Molecular Physics - High Pressure Physics.

D-

Abs Jour : Ref Zhur Fizika, No 3, 1960, 5701

Author : Karapet'yants M.Kh., Chen Guan-yue

Inst : -

Title : Temperature Dependence of Vapor Pressure. I. Combined
Method of Calculation in Series of Similar Substances

Orig Pub : S'chun'dasyue syuebao (tse'zhan'kesyue). Sichuan daxue xue-
bao. Ziran kexue, Acta scient. natur. Univ. szechuan.,
1958, No 2, 91-104

Abstract : The authors have evaluated and verified certain of the
most accurate methods of calculating the temperature
dependence of vapor pressure of individual substances.
In particular, an evaluation is made of methods of com-
parative calculation, for which certain quantitative coef-
ficients are introduced to permit application of these
methods to homological series. It is shown that in the
case of series of similar substances, the most productive

Card 1/3

5(0)

SOV/153-58-5-1/28

AUTHOR: Karapet'yants, M. Kh.

TITLE: On the Comparison of Two Properties of a Substance at Same Parameter Values of the Conditions (O sopostavlenii dvukh svoystv veshchestva pri odinakovykh znacheniyakh parametra usloviy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 5, pp 3-12 (USSR)

ABSTRACT: In cases where the dependence of two properties G' and G'' of a given substance on the parameter of the conditions Π $f_1(G', \Pi) = 0$ (1) and $f_2(G'', \Pi) = 0$ (2) can be expressed with this or that accuracy by linear equations: $\Psi(G') = a' + b'\varphi(\Pi)$ (3) and $\Psi(G'') = a'' + b''\varphi(\Pi)$ (4) the correctness of the relation $\Psi(G'') = A\Psi(G') + B$ (5) is given. In (5) the values $A, B = f(a', b', a'', b'')$ and the values G' and G'' are compared under the condition that $\Pi_{G'} = \Pi_{G''}$. If in (5) $\Psi(G) \approx (G)$, then $G'' = AG' + B$ (6), for the case that $\varphi(G) = \ln G$ $\ln G'' = A \ln G' + B$ (7). The relations (5) and especially (6) and (7) are analytical expressions of one

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SOV/155-58-5-1/28

On the Comparison of Two Properties of a Substance at Same Parameter Values of the Conditions

of the methods of the comparative calculation (Refs 1-4). The purpose of the present paper is to show by some examples that the relation (5) even in its most simple form, i. e. in the dependence (6) and (7) is widely used. The following examples are selected: the approximate equation $\xi = A\chi_1 + B$ (8); its

correctness is shown by figure 1, which was constructed by interpolation of the data from reference 5. Another example of the relation (6) is represented by the equation by Bachinskiy (Ref 6) $v = A\phi + B$ (10) (Fig 3). The transition from (10) to $v = AV(\phi) + B$ (11) leads to satisfactory results practically till the melting point. The relation $C_p = Av + B$ (13) (Ref 8)

also belongs to relations of the type (6). Some more equations, especially those by Kireyev (Refs 3, 11, 12) and the author of this paper (Ref 4) could be added to (8), (10) and (13).

The relation (6) can also be used for the relation between the thermal and the electric conductivity. The work by Mikryukov (Refs 13-16) and his collaborators are almost the only papers satisfying the corresponding equation: $\lambda_w = A\sigma_{el} + B$ (14).

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On the Comparison of Two Properties of a Substance at Same Parameter Values of the Conditions

Their results were used for checking the possibility of using the approximate equation (14) (Fig 4). Several dependences discussed by Pershke (Refs 24, 25), Othmer (Othmer) (Refs 26-32) et al. (Refs 33-43) also belong to type (7). Based on what was said in this paper the author arrives at the conclusion that the method of comparative calculation which corresponds to dependence (5) offers satisfactory results. It makes possible the estimation of the still unknown properties and the precizing of those already investigated. In several cases the corresponding relations are not in mathematical form. Nevertheless the similarity of the dependences $G'-\Pi$ and $G''-\Pi$ also in these cases proves that it is useful to follow the calculation methods of comparative calculation.

There are 4 figures and 81 references, 36 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut imeni D. I. Mendeleyeva, Kafedra fizicheskoy khimii (Moscow Chemo-Technological Institute imeni D. I. Mendeleyev, Chair of Physical-Chemistry)

Card 3/4

76-32-2-12/38

AUTHOR: Karapet'yants, M. Kh.

TITLE: On the Application of One of the Comparative Computation Methods on Two-Phase Single Component Systems (O primeneni odnogo iz metodov sravnitel'nogo rascheta k odnokomponentnym dvukhfaznym sistemam)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 2, pp. 306-317 (USSR)

ABSTRACT: In order to determine the values of different component properties also the methods of their comparative computation can be used. One such group is connected with the change of the respective property in consequence of a change of composition as well as of the structure of the component. The other group is connected with the change of property under the influence of external conditions. In the general case any property G of the component depends on 2 groups of variables. 1) G denotes a function of a complicated and complex variable which determines the composition and the structure of the

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76-32-2-12/38

On the Application of One of the Comparative Computation Methods on Two-Phase Single Component Systems

component. 2) G depends on the conditions on which the respective component exists. The equations (4), (5) and (6) - the analytical expressions of the first, second and third comparative computation method - are put down. The similarity of the first three methods is to be found in the fact that to all of them straight lines correspond which correspond to a number of components similar with respect to their properties; therefore each G contained in these equations represents the property of several components. Then it is assumed that for a component under the influence of a parameter of conditions Π (pressure, temperature, etc.) the linear equation $\psi(G) = a + b\varphi(\Pi)$... equation (10) is valid, $\Delta\psi(G) = b\Delta\varphi(\Pi)$, respectively. When these two equations (10) and (11) are put down for two components M and N , for two properties G' and G'' of the one component, and one property of the component with two values Π'_1 and Π'_2 of the other parameter of conditions Π' the following equation is obtained (12) $\psi(G_N) = A_4 \psi(G_M) + B_4$

$$(13) \quad \psi(G'') = A_5 \psi(G') + B_5$$

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76-32-2-12/38

On the Application of One of the Comparative Computation Methods on Two-Phase Single Component Systems

$$(14) \quad (G \Pi_2') = A_6 (G \Pi_2') + B_6$$

These expressions where G_N and G_M , G' and G'' , $G \Pi_2'$ and $G \Pi_1'$ with the same values of Π are compared with each other, are the equations of the fourth, fifth and sixth method of comparative computation. The present work deals with the fourth method, i. e. equation (12) which is applied to two phase single component systems. A short survey is given on the equations described in publications, which were suggested for the comparative computation of the corresponding properties at the liquid-vapor equilibrium curve. The fourth method differs from the three ones by the fact that the conditions of similarity of the components to be compared are not necessary. This is a consequence of the fact that here the dependence of one and the same property on the variable parameter must be similar

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76-32-2-12/38

On the Application of One of the Comparative Computation Methods on Two-Phase Single Component Systems

for different components. Another consequence is that the condition for the same state of aggregation is also not necessary in all cases. There are 2 figures, 2 tables, and 150 references, 43 of which are Soviet.

ASSOCIATION: Khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva, Moskva
(Institute for Chemical Technology imeni D. I. Mendeleyev, Moscow)

SUBMITTED: September 20, 1956

1. Chemistry 2. Mathematics

Card 4/4

AUTHOR:

Karapet'yants, M. Kh.

76-32-3-9/43

TITLE:

The Heats of Vaporization of Some Substances (Teploty ispareniya nekotorykh veshchestv). An Example of Applying a Special Case of One of the Comparative Calculation Methods (Primer primeneniya chastnogo sluchaya odnogo iz metodov sravnitel'nogo rascheta)

PERIODICAL:

Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 3, pp 554-568 (USSR)

ABSTRACT:

The fourth method of the comparative calculation of substance properties is employed. The heat of vaporization L can be calculated according to Clausius-Clapeyron or by integration. Because the experimental and theoretical determinations are difficult, many empirical and semi-empirical derivatives exist, as e.g. the more recent proposals according to Chu and Chin, A. F. Frolov and L. D. Volyak (Ref 4). Many of the values of L can be divided into two groups: those calculated according to Clausius-Clapeyron and those mentioned according to Ref 4, with a correction by Bertelot's state formula. The linear formula $L_N \approx AL_M$ is derived from the formula of the fourth com.

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76-32-309/43

The Heats of Vaporization of Some Substances. An Example of Applying
a Special Case of One of the Comparative Calculation Methods

parative calculation method in the case of equal vapor pressure of two substances (N, M), and therefrom the vapor pressure is calculated, for which, for an increase of pressure, the absolute error decreases; the difference of the bonding character of the polarity and other substance properties must not show an effect upon the accuracy of the results; standard substances can be used, and furthermore, the calculation formula is simple. From the mentioned working technique, it is be seen that the tests were carried out on several standard samples. Approximate values of the heats of vaporization of 101 substances (95 of them unknown hitherto) were calculated and mentioned in tables. The determination method is particularly recommended for compounds differing in isotopic composition, because in them, the critical pressures lie closely together, and their properties are of great importance. There are 2 figures, 6 tables, and 52 references, 15 of which are Soviet.

Card 2/3

76-32-3-9/43

The Heats of Vaporization of Some Substances. An Example of Applying
a Special Case of One of the Comparative Calculation Methods

ASSOCIATION: Khimiko-tehnologicheskii institut im. D. I. Mendeleyev, Moskva
(Moscow Institute for Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: September 20, 1956

Card 3/3

AUTHOR: Karapet'yants, M. Kh.

76-32-4-38/43

TITLE: Letters to the Editor (Pis'ma v redaktsiyu).
The Approximative Calculation Method of Non-Additive
Properties in Homologous Series (Priblizhennyy metod
rascheta neadditivnykh svoystv v gomologicheskikh
ryadakh)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 4,
pp. 949-951 (USSR)

ABSTRACT: The additive computation of various properties of organic
substances are dealt with in many references, as for in=
stance, in the works by A. Ye. Lutskiy, P. G. Maslov
(Reference 1), as well as by V. M. Tatevskiy (Reference 2).
In the present work a graphical representation of the li=
near relation of the various properties of some organic
compounds according to the formula $G_{m+1} = AG_m + B$ is
given, where G denotes the property; the hitherto applied
equation could not be used for non-additive properties as
there are melting point, boiling point, refraction index
etc. The proposed equation is, of course, also useful for

Card 1/2

Letters to the Editor.

76-32-4-38/43

The Approximative Calculation Method of Non-Additive
Properties in Homologous Series

additive properties and it can be regarded as generalization of the calculation method for properties changing jumplike with any others. Its applicability for the approximate classification of the meaning of different properties of organic substances is recommended, especially when the linear function is extended on a comparison of two properties of a series of substances. There are 1 figure and 5 references, all of which are Soviet.

ASSOCIATION: Khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva,
Moskva (Moscow, Chemical-Technological Institute imeni
D. I. Mendeleyev)

SUBMITTED: February 25, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Organic materials--Properties 2. Organic materials--Mathematical analysis

AUTHOR: Karapet'yants, M. Kh.

SOV/76-32-7-37/45

TITLE: The Application of the Comparative Calculation Method to the Computation of the Electroconductivity of Electrolyte Solutions (Primeneniye metoda sravnitel'nogo rascheta dlya vychisleniya elektroprovodnosti rastvorov elektrolitov)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 7, pp 1675 - 1678 (USSR)

ABSTRACT: The electroconductivities of concentrated and fairly concentrated solutions must be calculated according to empiric and half-empiric equations, as they incorporate a number of factors like the incomplete dissociation, the influence of viscosity, the change of the dielectric constant etc. The author investigates the possibility of an approximation calculation according to one of the methods mentioned in the title; aqueous solutions of SrCl_2 and BaCl_2 at 25°C are used as example. Proceeding from the equation $\lambda_H \approx A\lambda + B$ the author determines on the basis of graphs and several other formulae that in certain cases the formula

Card 1/3

The Application of the Comparative Calculation Method SOV/76-32-7-37/45
to the Computation of the Electroconductivity of Electrolyte Solutions

$$\lambda_{\text{BaCl}_2} = 1,033 \lambda_{\text{SrCl}_2} - 0,32 \text{ with the corresponding diagram}$$

supplies the best results. The possibility of the calculation according to the first mentioned equation is graphically shown by a number of electrolyte solutions. In the evaluation of the results of the calculation according to the mentioned formula the author points to the insufficient accuracy of the data found in publications, which fact may be seen from the diagrams. The calculation method described is especially well suited in such cases where with some experimental data the rest of the magnitudes can be calculated with an accuracy sufficient for practical work. There are 2 figures, 1 table, and 12 references, 8 of which are Soviet.

ASSOCIATION: Khimiko-tekhnologicheskii institut im.D.I.Mendeleyeva, Moskva
(Moscow, Chemical and Technological Institute imeni D.I.Mendeleyev)

SUBMITTED: September 4, 1957
Card 2/3

AUTHOR: Karapet'yants, M. Kh. SOV/76-32-8-7/37

TITLE: On the Approximate Calculation of the Temperature Dependence of the Heat Capacity (O priblizhennom raschete temperaturnoy zavisimosti teploymkosti)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 8, pp. 1763-1773 (USSR)

ABSTRACT: The method of comparative calculation had already been employed by the author in an earlier paper for single-component biphasic systems, and the calculation of the heat of evaporation had been carried out. In the present case the problem mentioned in the title is discussed, using the equations $T_N = AT_M + B$ (1) and $T_N = AT_M$ (2). The remark by Perry and Smith (Perry and Smit) (Ref 8) that the formula (1) may be employed only to a limited extent is explained by the fact that they proceeded from the Dyuring theorem. Erdős and Černý (Erdesh and Cherny) (Ref 9) proved the applicability of the equation (2). According to the values of the heat capacity of gases C_p a precising and comprising of a greater number of substances by the linear dependence may be achieved by changing over from

Card 1/3

On the Approximate Calculation of the Temperature Dependence of the Heat Capacity

SOV/76-32-8-7/37

equation (2) to equation (1). This is illustrated by some examples, with the limiting formulae according to Debye and an analogous one according to V. V. Tarasov (Ref 12) being mentioned. The author mentions data on the relations between the temperature dependence of the heat capacity e.g. of compounds of divers structure (laminated structure, chain lattice) and of elements; the data for Ge were taken from the book by Cristescu and Simon (Kristesku and Simon) (Ref 37). The results obtained with solid substances also point to the mentioned improvement by passing over from equation (2) to equation (1). The influence of the temperature on the interaction between the substance particles may effect a deviation from (2), so that, for example, in the case of a temperature drop a combination of the T^2 - and T^3 rules is necessary instead of the T^2 rule, i.e. a change towards the equation for a heterodynamic structure according to V. V. Tarasov (Ref 42) must be carried out. There are 9 figures and 44 references, 10 of which are Soviet.

Card 2/3

Card 3/3

CHINA/Atomic and Molecular Physics - High Pressure Physics.

D-

Abs Jour : Ref Zhur Fizika, No 3, 1960, 5702

Author : Chen Guan-yue, Karapet'-yants M.Kh.

Inst : -

Title : Temperature Dependence of Vapor Pressure. II. Normal Alkanes

Orig Pub : S"chuan' dasyue syuebao (tsi"zhan' Resyue), Kexue. Vestn. S"chuan'sh. un-ta (Ser. estest'. N.), Acta scient. natur. Univ., 1959, No 1, 97-110

Abstract : For Part I see Abstract 5701.

Card 1/1

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KARAPET'YANTS, M. Kh.

CHINA/Atomic and Molecular Physics - Heat.

D

Abs Jour : Ref Zhur Fizika, No 4, 1960, 8403

Author : Kapanet'yants, M.Kh., T'ien AN-min

Inst : ~~CHINA/Atomic and Molecular Physics~~

Title : On the Specific Heat of Compressed Gases

Orig Pub : Acta scient. natur. Univ. Szechuan, 1959, No 2, 47-57

Abstract : A brief survey is given of the experimental and theoretical works devoted to the specific heats of gases under pressure. Using eight substances as an example (C_3H_8 , iso- C_4H_{10} , neo- C_5H_{12} , CO, CO_2 , H_2O , NH_3 and O_2) as an example, it was shown that the following approximate equation

$$t_p = At_{p.} + B, \quad (1)$$

which is a particular example of one of the methods of comparative calculation is valid. In (1) one compares

Card 1/2

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KARAPET'YANTS, M.Kh.; YAN' GO-SEN'

Temperature dependency of 1-alkenes viscosity. Izv. vys. ucheb.
zav.; neft' i gaz 3 no.4:99-103 '60. (MIRA 15:6)

1. Khimiko-tekhnologicheskij institut imeni D.I. Mendeleyeva i
Sychuan'skiy universitet, Kitayskaya Narodnaya Respublika.
(Olefins)
(Viscosity)

KARAPET'YANTS, M.Kh.; LIN TIN-CHIN [Ling T'ing-ch'in]

Comparative calculation of interatomic distances. Zhur. strukt.
khim. 1 no.3:277-285 S-O '60. (MIRA 14:1)

1. Khimiko-tekhnologicheskii institut imeni D.I. Mendeleeva i
Syamyn'skiy universitet Amoy, Kitayskaya Narodnaya Respublika.
(Chemical bonds)

KARAPET'YANTS, M.Kh.

Interatomic distances in molecules of gaseous alkali metal halides.
Zhur. strukt. khim. 1 no.4:399-403 N-D '60. (MIRA 14:2)

1. Moskovskiy khimiko-tehnologicheskii institut imeni D.I.
Mendeleyeva.

(Alkali metal halides)

(Atoms)

AUTHORS: Gerasimov, Ya.I., Karapet'yants, M.Kh. S/076/60/034/02/043/044
B010/B007

TITLE: Valentin Aleksandrovich Kireyev (On the Occasion of
His 60th Birthday)

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 2, pp 484-485 (USSR)

ABSTRACT: On October 16, 1959, Doctor of Chemical Sciences V.A. Kireyev attained the age of sixty. The scientific and pedagogical activities of the well-known Soviet expert on physical chemistry began in 1923-1924. In the years from 1927 to 1932 he worked at the Fiziko-khimicheskiy institut im. L.Ya. Karpova (Institute of Physical Chemistry imeni L.Ya. Karpov). In 1935 V.A. Kireyev took the degree of Doctor of Chemical Sciences and became Professor of Physical Chemistry. His scientific work lay in the field of chemical thermodynamics, in which he mainly carried out determinations of physico-chemical constants of individual substances, investigations of solutions and phase-equilibria, and worked out calculation methods for chemical equilibria. In the course of his activities as Director of the Khimicheskiy institut Dal'nevostochniy filial AN SSSR Vladivostok (Chemical Institute of the Far Eastern Branch of the AS USSR, Vladivostok) and as Scientific Director of the Physical and Chemical Laboratory of the Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut Moskva (All-Union Scientific)

Card 1/2

Valentin Aleksandrovich Kireyev
(On the Occasion of His 60th Birthday)

S/076/60/034/02/043/044
B010/B007

Chemical-Pharmaceutical Research Institute, Moscow) investigations were carried out under his supervision of the coking capacity of coal. V.A. Kireyev had already begun his pedagogical activities in 1924 and taught at the Ural'skiy (Ural), Dal'nevostochniy (Far East), Gor'kovskiy universitet (Gor'kiy University), at the Inzhenerno-ekonomicheskii institut (Institute of Engineering and Economics), and in 1937 he took over the Chair of Chemistry at the Moskovskiy inzhenerno-stroitel'nyy institut im. V.V. Kuybysheva (Moscow Civil Engineering Institut imeni V.V.Kuybyshev). The books written by V.A. Kireyev were translated into several foreign languages. He took part in compiling the great Soviet encyclopedia and is at present Member of the Editors' College of an abridged chemical encyclopedia. V.A. Kireyev is a member of the Mendeleyevskoye obshchestvo (Mendeleyev Society), the Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy (All-Union Society for the Propagation of Political and Scientific Knowledge) and of a number of commissions of the AS USSR; he is also Chairman of the GEK khimicheskogo fakul'teta MGU (GEK (State Examination Commission) of the Department of Chemistry of Moscow State University). There is 1 figure. ✓

Card 2/2

S/076/60/034/007/038/042/XX
B004/B068

AUTHORS: Karapet'yants, M. Kh., Yan' Go-sen'

TITLE: An Approximate Method for the Calculation of the Properties of Substances Differing in Their Isotopic Composition

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 7, pp. 1647 - 1648

TEXT: The isotope effect is mostly given by the relations $G_D/G_H = A$ (1) and $G_D - G_H = B$ (2), where G is any property of the substance. It was found that A and B are no constants. Satisfactory results are obtained, however, when the linear approximative equation $G_D = aG_H + b$ (3) is used. Thus, for instance, it is mentioned that $(t_{crit})_{DX} = 0.9864(t_{crit})_{HX} + 4.4$ (4) and $n_{D_2O} = 0.919075n_{H_2O} + 0.10319$ (5). Critical temperatures of the halides

Card 1/2

PHASE I BOOK EXPLOITATION

SOV/5625

Karapet'yants, Mikhail Khristoforovich, and Ch'eng Kuang-yüeh

Temperatura kipeniya i davleniye nasyshchennogo para uglevodorodov (Boiling Point and Saturated Vapor Pressure of Hydrocarbons) Moscow, Gostoptekhizdat, 1961. 241 p. Errata slip inserted. 2,700 copies printed.

Scientific Ed.: L.A. L'vova; Tech. Ed.: E.A. Mukhina.

PURPOSE: This book is intended for researchers, manufacturers, and designers in the petroleum, chemical, petrochemical, carbochemical, and rubber industries, as well as for students, aspirants, and instructors in schools of higher education and higher technical education.

COVERAGE: The book deals with methods for calculating boiling points and saturated vapor pressure of liquids. Equations suggested for calculating the normal boiling point and the temperature dependence of vapor pressure are reviewed. An approximate method developed by the authors for calculating this dependence is described and verified on alkanes and alkenes. The method is applied to various hydrocarbons and organic compounds and materials differing in

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Boiling Point and Compression (Cont.)

SOV/5625

isotopic composition. Data for the determination of boiling points of hitherto unstudied hydrocarbons under various pressures are presented in the appendixes. A Chinese edition of the book was published simultaneously with the Russian edition by K'o hsüeh ch'u pan she (Science Press, Peking). The authors thank M.L. Karapet'yants, Candidate of Technical Sciences, and Professor V.A. Kireyev. References accompany individual parts in the book.

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PART I. METHODS OF CALCULATING THE BOILING POINT AND VAPOR PRESSURE	9
Ch. I. Methods of Calculating Normal Boiling Points	10
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Card 2/4	

KARAFET'YANTS, Mikhail Khristoforovich; KARAFET'YANTS, Mariya Leonidovna

[Tables of some thermodynamic properties of various substances] Tablitsy nekotorykh termodinamicheskikh svoistv razlichnykh veshchestv. Moskva, 1961. 163 p. (Moscow. Khimiko-tekhnologicheskii institut. Trudy, no.34). (MIRA 15:11)
(Organic compounds—Thermal properties)

S/064/61/000/001/008/011
B132/B218

AUTHOR: Karapet'yants, M. Kh.

TITLE: Method of comparative calculation of physicochemical properties

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1961, 33-42

TEXT: The numerical physicochemical values of a large number of compounds are not exactly known but may be calculated on the basis of various laws. The present paper presents six methods of approximate calculation, which are confirmed by several references: 1) comparison of the characteristic values of two series of similar substances. This method is based on the equation $G_{II} = A_1 G_I + B_1$, where G denotes the values of substances I and II. It holds for homolog series, such as n-alkyl cyclopentane and n-alkyl cyclohexane. In addition, it holds for inorganic groups like SrX_2 , BaX_2 (X = Cl, Br, I), and compounds which only differ in their masses, such as $LiCl \cdot nNH_3$, $LiBr \cdot nNH_3$ (n = 1, 2, 3). By using
Card 1/6

Method of comparative calculation of...

S/064/61/000/001/008/011
B132/B218

this equation, the following phenomena may be calculated: thermal effect, lattice energy, critical pressure and temperature, entropy, atomic and ionic radii, and interatomic distances. In a number of cases, i.e., if $A_1=1$ or $B_1=0$, $G_{II}=G_I+B_1$ will hold. This formula may be used to calculate thermal conductivity, internal energy, enthalpy, thermodynamic potentials, and heats of solutions of highly diluted electrolytes. In the case of infinite dilution, also the equivalent conductivity could be calculated. These calculations led to the Kohlrausch law which expresses the independence of ionic motion. $G_{m+1}=A_1G_m+B_1$ and $G_{m-1}=A_1G_m+B_1$ hold for carbon hydroxides with even or odd numbers of C atoms. If $G=t$, then the formula may be used to calculate the heat of crystallization, points of phase transformation, and cryoscopic constants. The equation $\log G_{II}=A_1 \log G_I+B_1$ serves for calculating the reaction constants and vapor pressures of two homolog series. 2) Comparison of two characteristic values of one series of similar substances. This method is based on the equation $G''=A_2G'+B_2$ and serves for comparing the

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Method of comparative calculation of...

S/064/61/000/001/008/011
B132/B218

values of G'' and G' in one series of related substances. As an example, the relation between the dissociation temperature in the range 400-2000°K and the heat of dissociation in the range 20-70 kcal/mole is given for the series $MgCO_3$, $CaCO_3$, $SrCO_3$, and $BaCO_3$. $\Delta Z = A_2 \Delta H + B_2$ holds for the relation between isobaric potential and heat of formation. This equation allows to calculate ΔZ_{298}^0 of several metallic tungstates and molybdates, and also hydration processes. The relation $S = A_2 C_p + B_2$ permits a comparison between entropy and specific heat, while the equation

$t_{cr} = A_2 \frac{\partial t}{\partial P} + B_2$ holds for the critical temperatures of hydrocarbons.

Lattice energy and heat of formation of some metallic halides are calculated from $\Delta H_d = A_2 \Delta H_f + B_2$. For the series CaF_2 - RaF_2 , the lattice constant a and the interatomic distance d in the gaseous phase may be calculated from $d_{Me_{II}-F} = A_2 a_{MeF_2} + B_2$. This relation also holds for ions

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Method of comparative calculation of...

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B132/B218

and free radicals. The expression $\log k = A_2 \log K + B_2$ allows the relation between equilibrium constants and reaction rate to be compared for a number of substances. As an example, the author mentions the relation between heat of fusion ΔH_{melt} (2-12 kcal/mole) and cryoscopic constant k (0-0.07) for several n-alkanes. 3) Comparison of the characteristic values of several series of substances with two values of state variables. The equation $G_{\Pi_2} = A_2 G_{\Pi_1} + B_2$ holds in this case. As an example, the interrelation between the dielectric constants at two temperatures is given for o-, m-, and p-xylene. The dissociation pressures of crystalline hydrates at two temperatures may be inter-compared according to $\log P_{T_2} = A_3 \log P_{T_1} + B_3$. The same relation holds for salt melts, such as $\text{Pb/PbCl}_2 + \text{MeCl/Cl}_2$ (Me=Li, Na, K, Pb) at $N_{\text{PbCl}_2} = 0.6$ and 0.7. The relation $\Delta H_{T_2} = A_3 \Delta H_{T_1} + B_3$ may be used to calculate the temperature dependence of the heats of formation of various hydrocarbons.

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Method of comparative calculation of...

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B132/B218

4) Comparison of one property of two substances with equal state variables. This method is based upon the equation $G_N = A_4 G_M + B_4$, where N and M denote the substances which are compared at different parameters. The above equation serves for comparing the surface tensions of two substances at the same temperature, for thermal effects of similar reactions (formation of CCl_4 and $SiCl_4$), and for the integral heats of solution of two substances as dependent on the concentration of the solvent. According to $L_N = A_4 L_M$, for instance, the relation between the heat of evaporation L (kcal/mole) of butene and that of Freon-13 may be established at various pressures. The same relation also allows a comparison of the temperatures of two crystalline substances of equal structure, at equal specific heats. As an example, the temperature dependence of the viscosity of mono-halobenzenes is mentioned. 5) Comparison of two properties of a substance under equal conditions of state. In this case, the equation $G'' = A_5 G' + B_5$ holds, where G' and G'' denote the properties of the substance to be compared at equal

Card 5/6

Method of comparative calculation of...

S/064/61/000/001/008/011
B132/B218

parameters. As an example, the dielectric constant of a solution is compared with the activity coefficient of the solvent. 6) Comparison of one characteristic value of a substance at two values of the state variables as dependent on another state variable. This method is based on the equation $G_{\pi_2} = A_6 G_{\pi_1} + B_6$. As an example, the temperature dependence of the enthalpy H (kcal/mole) of sulfuric acid of different concentrations is mentioned. This method is suited for the following calculations: temperature dependence of the viscosity of some two- and three-component silicate glasses; specific heat of real gases; and specific heat of compressed water vapor. It is noted that all these methods may also be applied for the calculation of isotopic effects. V. M. Tatevskiy, S. I. Drakin, N. I. Kobozev, I. I. Strelkov, V. A. Kiryeyev, A. K. Abas-Zade, and G. D. Gal'pern are mentioned. There are 9 figures and 78 references: 71 Soviet-bloc and 7 non-Soviet-bloc. ✓

Card 6/6

KARAPET'YANTS, M.Kh.; YAN' GO-SEN' [Yen Kuo-sên]

Temperature dependence of the viscosity of n-alcohols. Izv.vys.-
ucheb.zav.;khim.i khim.tekh. 4 no.4:580-583 '61. (MIRA 15:1)

1. Moskovskiy khimiko-tekhnologicheskij institut imeni Mendeleyeva
i Sychuan'skiy universitet.

(Alcohols) (Viscosity)

KARAPET'YANTS, M.Kh.

Department of the Chemical Industry of the Moscow City People's
University. Khim.prom. no.8:591-592 Ag '61. (MIRA 14:8)

1. Dekan fakul'teta khimicheskoy promyshlennosti Moskovskogo
gorodskogo narodnogo universiteta.
(Moscow--Chemistry, Technical--Study and teaching)

KARAPET'YANTS, M.Kh. (Moskva); CHEN GUANG-YUYE (Chengtu)

Combination method for calculating the temperature dependence of
vapor pressure. Part 6: Monoalkylamines.. Zhur. fiz. khim. 35
no. 4:782-788 Ap '61. (MIRA 14:5)

1. Khimiko-tekhnologicheskii institut im. D.I. Mendeleeva i
Sichuan'skiy universitet.
(Amines) (Vapor pressure)

S/076/61/035/008/004/016
B101/B218

AUTHOR: Karapet'yants, M. Kh. (Moscow)

TITLE: Approximate calculation of non-monotonically changing properties in series of comparable substances

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 8, 1961, 1727-1730

TEXT: The author reports on the application of the comparative calculation to the quantitative determination of non-monotonically changing properties. He starts from the equation $G_{II} = AG_I + B$ (1), where G denotes the

comparable property, and I and II refer to the intercomparable series. By this equation, non-monotonic properties of the elements of side-groups of the periodic system (secondary periodicities) are calculated. As an example, the following equation is given for the heats of formation of zinc and cadmium compounds: $(\Delta H_{298}^0)_{Cd_3X_2} = 0.25(\Delta H_{298}^0)_{Zn_3X_2} + 2.4$ (2), where

X = P, As, Sb. For the change of the energy U of the crystal lattice due to lanthanide contraction in the series Cu - Ag - Au, the author writes

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Approximate calculation of ...

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B101/B218

$U_{\text{MeBr}} = 0.88U_{\text{MeI}} + 31.8$ (3), where Me = Cu, Ag, and Au. Fig. 3 shows the thermal effect ΔH of the halogen-exchange reaction for Li-Na and Li-Cs. Eq. (1), however, can be applied not only to pure energetic characteristics but also to partial molar volumes (ml/mole) of the chlorides and bromides of the lithium sub-group, or even to polymerization coefficients of organometallic compounds, such as $\text{CH}_3\text{XCH}_2\text{CH}=\text{CH}_2$ or $(\text{CH}_2)_3\text{XCH}=\text{CH}_2$, where X = C, Si, Ge, or Sn. Besides, Eq. (1) may also be applied to melting points, points of phase transformations, and cryoscopic constants of homolog series. Papers by S. A. Shchukarev (Vestn. Leningr. un-ta, no. 22, 115, 1953; ibid., no. 11, 127, 1954; Zh. obshch. khimii, 24, 581, 1954; ibid., 27, 1131, 1957) and G. G. Diogenov (Zh. obshch. khimii, 23, 24, 1953). There are 5 figures, and 18 references, 16 Soviet-bloc and 2 non-Soviet-bloc. The two references to English-language publications read as follows: Lory, Philos. Mag., 151, 15, 42, 1882; A. P. Altschuller, J. Chem. Phys., 22, 1136, 1954.

ASSOCIATION: Khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva
(Institute of Chemical Technology imeni D. I. Mendeleyev)

Card 2/3

KARAPET'YANTS, M.Kh.

Method of approximation for calculating the isobar potentials
and heats of formation of various substances. Trudy MKHTI
no.38:52-58 '62. (MIRA 16:7)

(Heat of formation)

(Thermochemistry)

KARAPET'YANTS, M.Kh.; CHEN-GUANG-YUYE

Substantiation of the methods of comparative computation. Trudy
MKHTI no.38:59-67 '62. (MIRA 16:7)

(Chemical equilibrium)
(Chemistry, Physical and theoretical)

KUDRYAVTSEV, A.A.; SELIVANOVA, N.M.; DRAKIN, S.I., dots.; MAYYER,
A.I.; SAMPLAVSKAYA, K.K.; SOLOKHIN, V.A.; STAKHANOVA,
M.S.; BUNDEL', A.A., prof., ~~retsenezant~~; KARAPET'YANTS, M.Kh.,
doktor khim. nauk, prof., red.; MEL'NIKOVA, T.I., red.

[Laboratory work in-general and inorganic chemistry] Prakti-
kum po obshchei i neorganicheskoi khimii. [By] A.A.Kudriavtsev
i dr. Moskva, Mosk. khimiko-tekhrol. in-t im. D.I.Mendeleeva.
Pt.2. [Work in the chemistry of elements] Raboty po khimii ele-
mentov. 1963. 122 p. (MIRA 16:10)

(Chemistry--Laboratory manuals)
(Chemical elements)

MAKOLKIN, Ivan Afanas'yevich; SHMELEV, Boris Aleksandrovich;
IZMAYLOV, A.V., doktor khim. nauk, retsenzent;
KARAPET'YANTS, M.Kh., doktor khim. nauk, retsenzent;
MISHCHENKO, K.P., doktor khim. nauk, retsenzent;
FEDOROVA, T.P., red.; BARANOV, Yu.V., tekhn. red.

[Collection of examples and problems in physical and col-
loid chemistry] Sbornik primerov i zadach po fizicheskoi
i kolloidnoi khimii. Moskva, Rosvuzizdat, 1963. 181 p.
(MIRA 16:4)

(Chemistry, Physical--Problems, exercises, etc.)

KARAPET'YAN'S, Mikhail Khristoforovich; STROKOVA, T.P., red.;
CHIZHEVSKIY, E.M., tekhn. red.

[Exemples and problems in chemical thermodynamics] Pri-
mery i zadachi po khimicheskoi termodinamike. Izd.3.
[n.p.] Rosvuzizdat, 1963. 326 p. (MIRA 17:3)

BURMISTROVA, Ol'ga Aleksandrovna; KARAPET'YANTS, Mikhail
Khristoforovich, prof.; KARETNIKOV, German Sergeyevich,
dots.; KISELEVA, Yekaterina Vasil'yevna, dots.; KUDRYASHOV,
Igor' Vladimirovich, dots.; MIKHAYLOV, Vladimir Vasil'yevich,
dots.; STAROSTENKO, Yekaterina Pavlovna, dots.; STREL'TSOV,
Igor' Sergeyevich; KHACHATURYAN, Ol'ga Borisovna, dots.;
GORBACHEV, S.V., doktor khim. nauk, prof., zasl. deyatel'
nauki i tekhniki, red.; ALAVERDOV, Ya.G., red.; VORONINA,
R.K., tekhn. red.

[Laboratory work in physical chemistry] Praktikum po fizicheskoi khimii. [By] O.A.Burmistrova i dr. Moskva, Vysshaya shkola, 1963. 553 p. (MIRA 16:11)
(Chemistry, Physical and theoretical--Laboratory manual)

L 11876-63 PCS(f)/EWT(1)/BDS AFFTC/ASD
ACCESSION NR: AP3000945 S/0064/63/000/003/0032/0041

AUTHOR: Karapet'yants, M. Kh.; Ch'eng Kuang-Yueh 52

TITLE: Method of composite calculation of physico-chemical properties 2

SOURCE: Khimicheskaya promyshlennost', no. 3, 1963, 32-41

TOPIC TAGS: interpolation by parameters, extrapolation by parameters, extrapolation by materials, calculation of physico-chemical properties

ABSTRACT: The authors in their publication (*Temperatury* kipeniya i davleniya nasyshchennogo para uglevodorodov*, Gostoptekhnizdat, 1961) recommended methods of calculating physical-chemical properties by interpolation by parameters, or by extrapolation by parameters, by materials, or properties. Their experimental work referred to the P-T relationship of saturated vapors. To interpolate by parameters refinements are given for the Antoine equation (C. Antoine, *Compt. rend.* 107, 681, 836, 1143, 1888). In extrapolation by parameters or extrapolation by materials equations of the type $G = f(G \text{ prime})$, (where the property G is equivalent to another property G prime, or to the same property at different conditions) such as $\log T_{\text{sub } 2} = a_{\text{sub } 2} + b_{\text{sub } 2} \log T_{\text{sub } 1}$, are used. To extrapolate by materials 6 methods are shown by which the P-T relationship of a material may be evaluated if

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L 11876-63

ACCESSION NR: AP3000945

this relationship of other members of a series is known. Many physical-chemical properties G which are dependent on parameters G + PI can be expressed by the general equation shown in the enclosure. This can be applied in the extrapolation of properties such as viscosity, ionization constants, solubility, reaction rate, diffusion coefficient, etc. Orig. art. has: 10 figures, 2 tables and 72 equations.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQD: 31May63

ENCL: 01

SUB CODE: 00

NO REF SOV: 017

OTHER: 012

Card

2/72

KARAPET'YANTS, M. Kh.; CHEN GUANG-YUYE

Method for the combined calculation of physicochemical
properties. Khim. prom. no.3:192-201 Mr '63.

(MIRA 16:4)

(Chemical equations)

SELIVANOVA, N.M.; KARAPET'YANTS, M.Kh.

Approximate evaluation of the molar volumes of selenates. Izv.vys.ucheb.
zav.; khim.i khim.tekh. 6 no.4:534-542 '63. (MIRA 17:2)

1. Moskovskiy khimiko-tekhnologicheskii institut im. Mendeleyeva.
Kafedra neorganicheskoy khimii.

SELIVANOVA, N.M.; KARAPET'YANTS, M.Kh.

Energy of crystal lattices of sulfates, selenates, tellurates.

Izv.vys.ucheb.zav.; khim. i khim. tekhn. 6 no.6:891-895 '63.

(MIRA 17:4)

1. Moskovskiy khimiko-tekhnologicheskoy institut imeni Mendeleeva.
kafedra obshchey i neorganicheskoy khimii.

KARAPET'YANTS, M.Kh.

Application of a simple interpolation formula for calculating various properties and parameters of processes. Zhur.fiz.khim. 37 no.8: 1885-1887 Ag '63. (MIRA 16:9)

1. Khimiko-tekhnologicheskii institut im. D.I.Mendeleeva.
(Chemistry, Physical and theoretical)

L 18969-63

EPR/FCS(f)/EPF(c)/EWT(m)/BDS Ps-4/Pr-4 JAJ/RM/WM/MAY/JXT(IJP)

ACCESSION NR: AP3006622 S/0076/63/037/009/2041/2047 ⁶⁹

AUTHORS: Karapet'yants, M. Kh.; Yan Kuo-sen. ⁶⁷

TITLE: Temperature dependence of the viscosity ¹ of n-alkanes. ¹

SOURCE: Ah. fizicheskoy khimii, v. 37, no. 9, 1963, 2041-2047

TOPIC TAGS: Temperature dependence, viscosity, alkane,
n-alkane, hydrocarbon.

ABSTRACT: Authors apply a previously-described approximate method of calculating viscosity to the homologous series of n-alkanes. Values are obtained which make it possible to calculate the temperature dependence of 35 hydrocarbons among which 12 had not previously been investigated and 19 had been investigated only partially. Results of the calculation are presented in the form of a curve from which approximate values for the viscosity of n-alkanes from CH_4 to $\text{C}_{40}\text{H}_{82}$ over a wide range of temperatures can be obtained. Orig. art. has: 1 figure, 8 tables and 11 formulas.

ASSN: Institute of Chemical Engineering, Szechuan University.

Card

1/6/

KARAPET'YANTS, M.Kh.; CHEN GUANG-YUYE

Methods of calculating the properties of substances in polar coordinates.
Part 1. Zhur.fiz.khim. 37 no.10:2351-2353 O '63. (MIRA 17:2)

1. Moskovskiy khimiko-tekhnologicheskoy institut imeni Mendeleeva i
Sichuan'skiy universitet.

KARAPET'YANTS, M.Kh.

Brief news. Khim. prom. no.10s793-794 O '63.

(MIRA 17:6)

1. Prorektor Moskovskogo gorodskogo narodnogo universiteta.